



Junior FIRST LEGO League

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Currently coaching FRC and JrFLL

Sponsored by:

Wake Robotics, Inc.

Fiona Last-Powell

Currently coaching FLL



FIRST

For Inspiration and Recognition of Science and Technology

"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."

Dean Kamen, Founder

- Gracious Professionalism™
- Coopertition™
- Teamwork
- Science and technology

Overall Values of *FIRST*

Age

6 7 8 9 || 9 10 11 12 13 14 || 14 15 16 17 18

**Junior *FIRST*®
LEGO® League**



***FIRST*® LEGO®
League**



***FIRST*® Tech
Challenge**



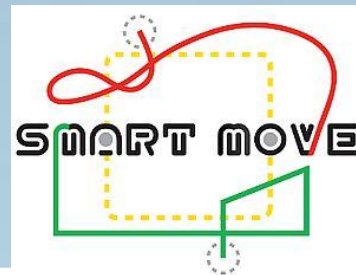
***FIRST*®
Robotics
Competition**



***FIRST* Programs**



FLL and JrFLL



Themes in JrFLL and FLL

127 teams in 2004 with "No Limits" to 19,800 teams expected from more than 50 countries this year





FLL 2012: Senior Solutions

"Independent. Engaged. Connected."



JrFLL
Fall 2012

Can Junior FIRST® LEGO® League teams improve the quality of life for seniors by learning about the obstacles some people face as they get older?

In the 2012, SUPER SENIORS(SM) Challenge, teams will learn about simple machines as they build a model made of LEGO® elements with a motorized moving part and create a team Show-Me Poster to represent their findings.

Over 16,000 children ages 6 to 9 from 5 countries will learn about the challenges some seniors may have getting around, keeping in touch with friends and family or staying active and fit.

- 2 to 6 students
- 6ish to 9 years old
 - 9 or under on January 1, 2012
- Non-competitive
 - "Show me" display board
 - LEGO model with moving parts



JrFLL Teams

Time	What
Aug 1 through Spring	Team Registration (http://usfirst.org)
Find some friends	Check similar goals and time availability
Meet	6 to 10 times before exhibiting 1 1/2 hour each ??
<u>Exhibit options</u>	
•Nov ? 2012	FLL Regional at SE Raleigh High School
•Feb 4, 2012	Cary Homeschoolers/Dayspring Science Fair

2012-13 Schedule

- Minimum cost
 - \$25 to register a team (<http://usfirst.org>)
- Additional costs for teams
 - Matching tshirts and accessories/bling
 - Display board and decorations
 - Snacks
- LEGOs – wheels, gears, axles, motors

Cost

JrFLL Base Kit: \$149.95

(recommended but not required – from USFIRST
– 1 per registered team)

Kit includes:

- LEGO® Bricks Set (884 pieces)
- LEGO Technology Resources Set (1,110 pieces)
- LEGO Power Functions Battery Pack
- LEGO Power Functions Motor
- LEGO XL Base Plate
- 6 LEGO SERIOUS® Play™ mini-kits with one set of activity cards (57 pieces in each mini-kit)

**Optional
Costs**



JrFLL Base Kit Plus with Resource Set: **\$215.95**

(early programming, sensors, interactive models)

Kit includes:

LEGO Education WeDo™ Construction Set (150+ pieces)

- LEGO Education WeDo™ Resource Set (325 pieces)
- LEGO Education WeDo™ Robotics Software – Team License
- LEGO Education WeDo™ Activity Pack Team License

**Optional
Costs for
Older Teams**





JrFLL in Practice

- We are a team
- We do the work
- We share our experiences and discoveries with others
- We are helpful, kind and show respect when we work, play and share. We call this “Gracious Professionalism”
- We are all winners
- We have fun

JrFLL Core Values

- Kids come first
- Kids do the work
 - Adults can help find the answers but can't give them the answers or make decisions
- I will encourage my team members/other coaches/volunteers/team supporters to practice JrFLL values

Coach's Promise

- Implementation and logistics of the team is very individual
 - This is typical of the *FIRST* organization as a whole
- Use it as:
 - An “extra curricular” club
 - A team activity
 - A social, fun time
 - A science enrichment activity
 - A home school science curriculum

JrFLL is Customizable



What Do You Actually Do?

- Plan a 2 hour time period once a week
- Split the time between:
 - Team building activities
 - Talking/putting together research about the topic
 - Building with LEGO's
 - Having fun
- Do some field trips about the topic, science experiments and/or crafts
- Coach's Handbook has outlines of meeting periods

Team Meetings

Week 1

15 min	Snack	Allow children to have a snack, especially if this is an afterschool activity. This will give you a chance to bring all the kids together and go over the plan for the day. You may wish to include snack items in your team budget, create a schedule for team families to supply snacks, or ask each team member to bring their own snack each week. You might want to show all or part of one of the online video resources during snack time.
10 min	Icebreaker Team building	Play icebreaker, name, or team building games. Brainstorm a team name and logo.
25 min	Challenge introduction	Introduce the SNACK ATTACK topic. Read the Challenge and let the team know their mission for the season. Brainstorm a list of all the snacks the team likes to eat. Next talk about the ingredients it takes to make each snack. Record the list on butcher-block paper, a chalkboard, a flip chart, or a whiteboard so everyone can see. Be sure to capture at least one item from each child on the team.
25 min	Explore parts	Allow kids to play and explore the base kit or similar collection of LEGO parts. Don't worry if they are not building anything related to the topic. Some children may never have used LEGO pieces before and will need time to get a sense of how to use them. Remember, this is meant to be FUN!
15 min	Recap and clean-up	Clean up, put away materials, recap the day's activities, and remind the children to begin thinking about a snack they would like to learn more about together as a team over the next 6 weeks.

- Plan your time
 - Focus is on learning, not necessarily producing

The season...

- Start with background information
 - youtube, field trips, building, library
- Look at both:
 - Research topic and
 - Simple machines, how to build strong structures and use motors

The season...

- Spread out your team decisions
 - Team name
 - Specific topic being looked at
 - What the model will look like
 - The display board
 - Tshirts / buttons

The season...



**End Result:
Model, Show Me Board
and a celebration "Expo"**



What are they really learning?

- How to work as a team
- How to listen to each other
- How to share LEGO's
- How to come up with 1 display board, 1 model, 1 name for the team
- How to talk to people about a project they worked on with others

Skills for 6ish to 9 year olds

- You know your kids
 - What challenges you are working through with them
 - How much time can they spend on task and with others
- Talk with other parents
 - Any snack OK?
 - Any typical “coop” issues?
 - How often to meet?
 - How much work will you do outside of the group?
 - How are you going to split the costs?

Use it how it works for you



Ocean Odyssey

An opportunity to try JrFLL out this summer

- There are many mysteries deep in our oceans.
- What types of things do you think can be found under the ocean?
- This is your chance to build a model of some undersea discoveries -- marine life, plants, animals, treasures or shipwrecks
- Build a motorized underwater vehicle to explore your model and others.

Ocean Odyssey

- Join us on Saturday, August 25 for a JrFLL Expo celebrating Ocean Odyssey!
- Bring:
 - Your Show Me board
 - A baseplate with your undersea LEGO model
 - An undersea vehicle
- Drive your underwater vehicle along the ocean floor of connected base plates and explore the new discoveries made by other JrFLL teams

Celebrate With Us

- Sign up with Wake Robotics (\$40/team)
- Membership to a wiki where you can see weekly suggested activities and have a chance to share resource tips with other JrFLL teams
- Join Wake Robotics' yahoo group to share resource ideas with other JrFLL coaches and families
- Display at the August 25 Expo

How it works

- Total requirements/team

- \$40 to sign up
- A 15 inch base plate
- Your own LEGO's
- Science display board



- If you want to add additional motors and gears, they're available at LEGO Education (or wait until August)

Required for each team

- OR, sign up a Junior FLL team at <http://usfirst.org> beginning in August to start the Super Seniors challenge

Alternatively...



Questions?